

IN THE CLAIMS:

Please amend the claims as indicated below:

11. The method of claim 10, wherein said predicted new load, $\mu_{l,i}^D$, is computed as follows:

$$\mu_{l,i}^D = p_{l,i}^D \sum_{k=1}^K \lambda_k^D$$

where $p_{l,i}^D$ is a probability of assigning a resource to a band and λ_k^D are a number of users over a downlink band.

24. The system of claim 23, wherein said predicted new load, $\mu_{l,i}^D$, is computed as follows:

$$\mu_{l,i}^D = p_{l,i}^D \sum_{k=1}^K \lambda_k^D$$

where $p_{l,i}^D$ is a probability of assigning a resource to a band and λ_k^D are a number of users over a downlink band.

REMARKS

This Amendment is submitted in response to the outstanding Office Action, dated September 14, 2001. Claims 1 through 26 are presently pending in the above-identified patent application. Claims 11 and 24 have been amended. No additional fee is due.

In the Office Action, the Examiner rejected Claims 11 and 24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. In addition, the Examiner rejected Claims 1 through 10, 12 through 23 and 25 through 26 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,112,092 to Benveniste I. Finally, the Examiner rejected Claims 14, 19 and 23 under 35 U.S.C. §103(a) as being unpatentable over Benveniste I in view of Benveniste II (United States Patent Number 6,230,016).

The present invention is directed to a distributed dynamic channel allocation algorithm for a multi-carrier CDMA cellular system *having at least one mobile base station*.

Formal Matters

The Specification and Abstract have been amended to correct typographical errors. No new matter has been introduced. A substitute Abstract, as amended herein, is submitted herewith.

The Examiner has rejected Claims 11 and 24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. Specifically, the Examiner requested clarification of all elements of the equations in claims 11 and 24. Claims 11 and 24 have been amended in accordance with the Examiner's suggestion. Thus, Applicant respectfully requests that the rejection of claims 11 and 24 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Benveniste Prior Art Rejections

The Examiner rejected Claims 1 through 10, 12 through 23 and 25 through 26 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,112,092 to Benveniste I. Finally, the Examiner rejected Claims 14, 19 and 23 under 35 U.S.C. §103(a) as being unpatentable over Benveniste I in view of Benveniste II (United States Patent Number 6,230,016).

Benveniste I is directed to a self-configurable channel assignment system. As discussed in col. 9, lines 1-23 and shown in FIG. 3 ("Present System Configuration), the system of Benveniste I includes a plurality of mobile switching centers (MSC) 202 and 203 that interconnect the Public Switched Telephone Network (PSTN) 201 and a plurality of **fixed** base stations 210. Benveniste I does not disclose or suggest any mobile base stations.

Thus, Benveniste I does not disclose or suggest a method or system for allocating a resource to a mobile station in a wireless communications network *having at least one mobile base station*, as required by each of the independent claims.

Accordingly, Benveniste I cannot be said to *anticipate* the present invention. In addition, under the provisions of 35 U.S.C. §103(c), "subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

Benveniste I and II are only available as prior art under section 102(e), and were both owned by the assignee of the present invention, Lucent Technologies Inc., at the time the present

invention was made. *Thus, Benveniste I and II are not available as prior art under section 103.*


In view of the foregoing, the invention, as claimed in Claims 1 through 26, cannot be said to be either taught or suggested by Benveniste I or II. Accordingly, applicants respectfully request that the rejection of claims 1 through 26 under 35 U.S.C. §§ 102 or 103 be withdrawn.

All of the pending claims, i.e., claims 1 through 26, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully,



Kevin M. Mason
Attorney for Applicant(s)
Reg. No. 36,597
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06430
(203) 255-6560

Date: February 19, 2002

VERSION MARKED TO SHOW ALL CHANGES**IN THE SPECIFICATION:**

Please amend the paragraph beginning at page 1, line 11, with the following rewritten paragraph:

Code division multiple access (CDMA) techniques transmit multiple information signals on the same channel (carrier frequency), and differentiate each user sub-channel by encoding it with a unique spreading code. [Code division multiple access (CDMA)] techniques have been employed in many digital wireless communication systems to permit a large number of system users to communicate with one another. CDMA systems treat each user as a separate signal, while treating other users as either interference or noise. As the number of interfering users increases, the corresponding interferences add to cause degradation of performance, such as an increasing bit error rate (BER) or frame error rate.

Please amend the paragraph beginning at page 2, line 2, with the following rewritten paragraph:

-- Generally, a distributed dynamic channel allocation algorithm is disclosed for a multi-carrier CDMA cellular system having at least one mobile base station. The disclosed distributed dynamic channel allocation algorithm is based on channel power measurements carried out by both the mobile station requesting an allocation of a resource and the mobile base station attempting to allocate an available resource to the mobile station. Channel power measurements from both the mobile base station and the requesting mobile station are used since the mobile base stations are not fixed base stations as is the case in commercial CDMA systems. --

IN THE ABSTRACT:

Please amend the Abstract as follows:

-- A distributed dynamic channel allocation algorithm is disclosed for a multi-carrier CDMA cellular system having at least one mobile base station. The disclosed distributed dynamic channel allocation algorithm [used] uses channel power measurements from both the requesting mobile

station and the mobile base station attempting to allocate an available resource to the mobile station. The distributed dynamic channel allocation algorithm attempts to allocate the best available resource for the requesting mobile station, in terms of interference, while minimizing the amount of interruption that the allocated resource may cause to existing connections in neighboring cells. Thus, the distributed dynamic channel allocation algorithm follows a "least-interference, least-interruption" strategy. The distributed dynamic channel allocation algorithm of the present invention is load balancing, since it tends to assign new resources to mobile base station with lighter loads. Due to the mobility of the mobile base station, a mobile base station can cause interference to mobiles connected to another close-by mobile base station. The uplink and downlink channels are not paired and can be independently assigned to requesting mobile stations. A first dynamic channel allocation process assigns resources to new mobile stations, while a dynamic channel allocation process assigns a new resource to an existing mobile station. The dynamic channel allocation process (new mobile) and dynamic channel allocation process (new resource for existing mobile) process collected measurement information on network interference and load conditions, and assign a resource to a requesting mobile station in an optimum manner. --

IN THE CLAIMS:

Please amend the claims of the above-identified patent application as follows:

11. (*Amended*) The method of claim 10, wherein said predicted new load, $\mu_{l,i}^D$, is computed as follows:

$$\mu_{l,i}^D = p_{l,i}^D \sum_{k=1}^K \lambda_k^D$$

where $p_{l,i}^D$ is a probability of assigning a resource to a band and λ_k^D are a number of users over a downlink band.

24. (*amended*) The system of claim 23, wherein said predicted new load, $\mu_{l,i}^D$, is computed as follows:

$$\mu_{l,i}^D = p_{l,i}^D \sum_{k=1}^K \lambda_k^D$$

where $\underline{p_{l,i}^D}$ is a probability of assigning a resource to a band and $\underline{\lambda_k^D}$ are a number of users over a downlink band.